

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
(Attorney Docket № 14183US02)**

In the Application of:

Ed H. Frank, et al.

Serial No. 10/658,734

Filed: September 9, 2003

For: METHOD AND SYSTEM FOR  
OPTIMAL LOAD BALANCING IN A  
HYBRID WIRED/WIRELESS  
NETWORK

Examiner: Win, Aung T.

Group Art Unit: 2617

Confirmation No. 2791

**Electronically filed on April 7, 2010**

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Mail Stop AF  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

The Applicant requests review of the final rejection in the above-identified application, stated in the final Office Action mailed on January 7, 2010 ("Final Office Action") with a period of reply through April 7, 2010. The Applicant also requests review of the arguments stated on page 2 of the Advisory Office Action mailed on March 29, 2010 ("Advisory Office Action"). No amendments are being filed with this request. This request is being filed with a Notice of Appeal. The review is being requested for the reasons stated on the attached sheets.

**REMARKS**

The present application includes pending claims 1-22 and 24-46, all of which have been rejected. Claims 1-22 and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPP 20020085719 ("Crosbie") in view of USP 6,069,871 ("Sharma"). The Applicant respectfully submits that the claims define patentable subject matter and also traverses these rejections at least for the following reasons:

**I. Rejection to Claims 1, 9, 17, 27 and 37**

**A.** Crosbie does not disclose the alleged “polling message”. There is simply no disclosure that Crosbie’s service request is the alleged “polling message”, or the service request includes a “polling message”.

The Examiner states the following in the Advisory Office Action:

**“Examiner disagrees...Crosbie’s service request is a polling message since mobile device transmits service request message to access point in order to receive optimal load balancing information i.e., which access point is the less congested access point for the mobile to select for initiating communications or reestablishing communications [Crosbie: (0035-0047)]...Applicant’s arguments also fail to comply with 37 CFR 1.111(b)...without specifically pointing out how the language of the claims patently distinguishes them from the references...”**

Applicant’s “polling message” differs from Crosbie’s service request in at least the following way: Applicant’s claim 1 recites that the “polling message” causes the access point to “...communicate a load on said one or more of said plurality of access points to a switch”. Crosbie’s service request (the alleged “polling message”) does not cause the access point to communicate the access point’s load information to the alleged switch (the roaming server 22). On the contrary, Crosbie’s ¶0044 discloses that in response to receiving the service request (the alleged “polling message”), the access point simply passes the request with the mobile device address to the alleged “switch” (roaming server 22). The alleged switch then **looks up** the service level of the mobile device (the alleged “access device”) and the loading level of the access point **stored inside a data base** 42 within the roaming server 22. Therefore, Crosbie’s service request is not the alleged “polling message”, and the Examiner’s above allegation that Applicant’s argument allegedly fails to comply with 37 CFR 1.111(b), is therefore, moot.

Regarding the Examiner’s allegation that Crosbie’s service request is the alleged “polling message”, Crosbie (¶0038) discloses that the mobile device service request is merely **a request for service when the mobile device 26 is about to make a change in its service location**. Crosbie (¶0044) also discloses passing the mobile device’s address to the alleged switch (roaming server 22) by the access point. Crosbie’s service request simply does not cause the access point to communicate any access point load information to the alleged switch (roaming server 22). In addition, Crosbie’s ¶¶0045-0047 clearly disclose that **it is the roaming server 22** (the alleged “switch”), **not the mobile device 26** (the alleged “access device”), which **makes the decision to direct** (the alleged “selection”) **the transfer of the mobile device 26 from a congested AP 24-1 to a less congested AP 24-2** (the alleged “re-establishes communication with AP”). In this regard, Crosbie also does not disclose or suggest **“said access device selects and re-establishes communication with one or more of said plurality of access points** based on said communicated information of said determined optimal load balancing,” as recited in Applicant’s claim 1.

The Examiner further states the following in the Advisory Office Action:

"Crosbie does not explicitly disclose ... "communicating a load on said one or more of said plurality of access points to a switch". However it would have been obvious to one of ordinary skilled in the art that roaming server 22 i.e., a switch which is connected to access points must be communicating each other in order to determine each access point's load to facilitate Crosbie's load balancing method and system."

The Examiner's above argument without factual support from Crosbie, is a conclusory statement (prohibited by MPEP at § 2142). Even assuming arguendo, that there is a load communication between Crosbie's access point and the alleged switch (roaming server 22), there is still no support that such load communication is a result of the access point receiving a service request from the mobile device. Therefore, the Examiner has not established a *prima facie* case of obviousness, that Crosbie suggests "**responsive to said one or more polling message**, communicating a load on said one or more of said plurality of access points to a switch," in Applicant's claim 1.

The Examiner further states the following in the Advisory Office Action:

"Sharma discloses **base station controller** which is connected to base stations queries base stations for capacity load information **to facilitate load balancing** [Column 5]. Therefore, it would have been obvious to one of ordinary skilled in the art at the time of invention was made would realize that **modifying roaming server i.e., the switch to query connected access points for load information as taught by Sharma et al.'s** load information querying method would teach "communicating a load on said one or more of said plurality of access points to a switch" as claimed. It should be noted that applicant's arguments against the references individually, ..."

The Examiner, in effect, argues that Sharma teaches a switch querying the connected access points for load information. The Applicant respectfully disagrees, and points out that Applicant's 3/8/10 response (pages 22-25) argued that Sharma (see Sharma col. 4 line 64 - col. 5, lines 1-60) discloses that the base station transceiver BTS 108A (the alleged "AP") sends capacity indications (the alleged "load information") **only to a base station controller BSC 104, but not to the mobile switching center (MSC)** 102 (the alleged "switch"). Therefore, contrary to the Examiner's allegation, Sharma **does not** teach or suggest that **the mobile switching center (MSC) 102** (the alleged "switch") query the connected the base station transceiver BTS 108A (the alleged "AP") for load information. Therefore, Sharma does not overcome Crosbie's deficiency, namely, "communicating a load on said one or more of said plurality of access points to a switch, wherein said switch determines optimal load balancing for said one or more of said plurality of access points based on said communicated load" as recited in Applicant's claim 1. Accordingly, the Examiner's remaining allegation that Applicant attack Sharma's reference individually to show non-obviousness, is therefore, moot.

**B.** Applicant argued that the combination of Crosbie and Sharma does not disclose or suggest "responsive to said one or more polling message, communicating a load on said one or more of said plurality of access points to a switch .." as recited in Applicant's claim 1. The Examiner further states the following in the Advisory Office Action:

"..., Crosbie discloses that "responsive to mobile service request message i.e., polling message received via access point, roaming server i.e., **switch** determines each access point loads and **determines optimal load balancing for said one or more of said**

**plurality of access points based on determined load.** It would have been obvious to one of ordinary skilled in the art that roaming server 22 i.e., a switch which is connected to access points must be communicating each other in order to determine each access point's load to facilitate Crosbie's load balancing method and system."

The Examiner is referred to Applicant's above arguments in section A, that Crosbie's service request is not the alleged "polling message" as claimed. The AP load information is not received from the AP, but is retrieved from the roaming server's data base. Even assuming that there is load communication between the AP and the roaming server, there is still no support that Crosbie's AP load information is communicated as a result of receiving the service request from the mobile device. Therefore, Crosbie does not disclose or suggest "responsive to said one or more polling message, communicating a load on said one or more of said plurality of access points to a switch," in Applicant's claim 1.

In addition, the Examiner seems to also agree that **it is the roaming server 22** (the alleged "switch"), **not the mobile device 26** (the alleged "access device"), **which makes the decision to direct** (the alleged "selection") **the transfer of the mobile device 26 from a congested access point AP 24-1 to a less congested access point AP 24-2** (the alleged "re-establishes communication with AP"). In this regard, the Examiner seems to also concede that Crosbie does not disclose or suggest "said access device selects and re-establishes communication with one or more of said plurality of access points based on said communicated information of said determined optimal load balancing," as recited in Applicant's claim 1.

Moreover, Sharma discloses that the base station transceiver BTS 108A (the alleged "AP") sends capacity indications (the alleged "load information") **only to a base station controller BSC 104**, i.e., **but not to the mobile switching center (MSC) 102** (the alleged "switch"). Sharma does not overcome Crosbie's above deficiency.

The Examiner further states the following in the Advisory Office Action:

"Sharma discloses **base station controller which is connected to base stations queries base stations for capacity load information to facilitate load balancing** [Column 5]. Therefore, it would have been obvious to one of ordinary skilled in the art at the time of invention was made would realize that modifying roaming server i.e., the switch to query connected access points for load information as taught by Sharma et al.'s load information querying method would teach "responsive to said one or more polling message, communicating a load on said one or more of said plurality of access points to a switch .." and "communicating a load on said one or more of said plurality of access points to a switch, wherein said switch determines optimal load balancing for said one or more of said plurality of access points based on said communicated load..."

Sharma clearly discloses that the base station transceiver BTS 108A (the alleged "AP") sends capacity indications (the alleged "load information") **only to a base station controller BSC 104**, i.e., **but not to the mobile switching center (MSC) 102** (the alleged "switch"). The Examiner finds no support to the allegation that somehow Sharma suggests by-passing the **base station controller BSC 104** and sending the

capacity information directly to the **mobile switching center (MSC)** 102 (the alleged “switch”). The Applicant maintains that the Examiner’s mere conclusory statement above does not establish a *prima facie* case of obviousness (MPEP at § 2142).

C. The Examiner further states the following in the Advisory Office Action:

“As stated in office action, mobile device communicating based on modified method and system selects and reestablishes communication with one or more of said plurality of access points based on said communicated information of said determined optimal load balancing i.e., which access point is the less congested access point for the mobile to select for initiating communications or reestablishing communications [Crosbie: (0035-0 047)]. It should be noted that applicant’s arguments against the references individually,...”

The Applicant maintains that Crosbie discloses (and the Examiner seems to also agree) that it is the roaming server, not the mobile device, which makes the decision to direct the transfer of the mobile device to a less congested AP (the alleged “re-establishes communication with AP”). Sharma discloses that the base station controller BSC, not the mobile device, which performs load balancing and assigns carrier frequency traffic channels to the BTS (the alleged “AP”) to execute both hard and soft handoff (the alleged “re-establishing communication”).

The Applicant maintains the remaining arguments stated in the 3/8/10 response to Final Office Action, and reserves the right to argue additional reasons to support the allowability of claims 1-22, should such a need arise.

### CONCLUSION

Based on at least the foregoing, the Applicant believes that all claims 1-22 and 24-46 and are in condition for allowance. If the Examiner disagrees, the Applicant respectfully requests a telephone interview, and requests that the Examiner telephone the undersigned Patent Agent at (312) 775-8093.

The Commissioner is hereby authorized to charge any additional fees or credit any overpayment to the deposit account of McAndrews, Held & Malloy, Ltd., Account No. 13-0017.

A Notice of Allowability is courteously solicited.

Respectfully submitted,

Date: April 7, 2010

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